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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,857

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Masaaki Miyanaga

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10/12/2006

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EXAMINER

MORGAN, EILEEN P

ART UNIT

PAPER NUMBER

3723

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/539,857

**Applicant(s)**

MIYANAGA, MASAOKI

**Examiner**

Eileen P. Morgan

**Art Unit**

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-9, 11 and 15-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 6-9, 11 and 15-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6-17-05.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the decreasing gaps toward the outer diameter (cl. 8) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6,7, 8, 9,11,15-20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6, what are the different directions? With respect to what? Claim 7, what does 'swirl shape' mean? Cl. 8, last line, where is the 'gap'? between grains or units? How does gap decrease? Where does gap begin? This arrangement is not shown in the figures. Claim 11, line 2, what does 'from an outer diameter side' mean? Where are the 'center region and peripheral region' located? Is the 'center region' and 'center side region' the same? This is confusing. Is the 'peripheral edge region' and 'peripheral side region' the same? This is not clear what is being claimed in relation to what. It is totally unclear where the grains are located. 'the character' is unclear and lacks antecedent basis, as does, 'the graphic' and 'the pointillist manner'. What is this manner? Cls. 15 and 16 how does a protruding portion 'protrude forward and backward'? This is unclear. Does the protruding portion constitute both the forward and backward directions? Cls. 17 and 20 are unclear. The protruding portion is located on the 'peripheral edge'. What constitutes the 'outer peripheral edge'?

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 6,7,8,9,18,19 rejected under 35 U.S.C. 102(b) as being anticipated by WO 90/00105.

WO'105 discloses a grinding disc comprising diamond grains (5) bound on said disc that are bound in a pattern to form group units (10) that are arranged regularly on the grinding portion. This arrangement shows orientation in different directions, in a swirl shape (Fig 7.), and gaps between groups that decrease toward outer edge. The diamond groups can be formed in three arranged in a triangle shape (Fig. 5b).

Claims 6,7,8,15,16, rejected under 35 U.S.C. 102(e) as being anticipated by Hirata et al.- 2003/0003858.

Hirata discloses a grinding disc comprising diamond grains bound on said disc that are bound in a pattern to form group units (110, 210, 310) that are arranged regularly on the grinding portion. This arrangement shows orientation in different

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directions (Fig 8), in a swirl shape (Fig 3.), and gaps between groups that decrease toward outer edge (Fig 4). The disc has a protruding portion at a peripheral edge (Fig 2, Fig 6) with diamonds bound on protruding portion.

Claims 6,7,15,16, 17, 20 rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al.- 6,533,650.

Yoshida discloses a grinding disc comprising diamond grains (2) bound on said disc that are bound in a pattern to form group units (8) that are arranged regularly on the grinding portion. This arrangement shows orientation in different directions and in a swirl shape (Fig 1.). The disc has a mounting hole (7), a protruding portion (9) at a peripheral edge (Fig 3, Fig 4) with diamonds bound on protruding portion, wherein the outer peripheral portion is rounded (10).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over WO-105 or Yoshida or Hirata over Carpentier et al.-6,287,184.

WO-105 nor Yoshida nor Hirata disclose forming a graphic from the grains on the disc. However, Carpentier teaches a grinding disc having a graphic (3M, Fig 1) made from grains. Therefore, it would have been obvious to one of ordinary skill in the art at

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time invention was made to form images on the disc of WO-105 nor Yoshida nor Hirata, as taught by Carpentier, in order to visually identify disc. The placement of the image or graphic would have been an obvious design choice dependent on machining parameters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eileen P. Morgan whose telephone number is 571.272.4488. The examiner can normally be reached on Monday-Thursday, 7am-3:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571.272.4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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EM  
September 30, 2006

A handwritten signature in black ink, appearing to read 'EPM', with a long horizontal flourish extending to the right.

Eileen P. Morgan  
Primary Examiner